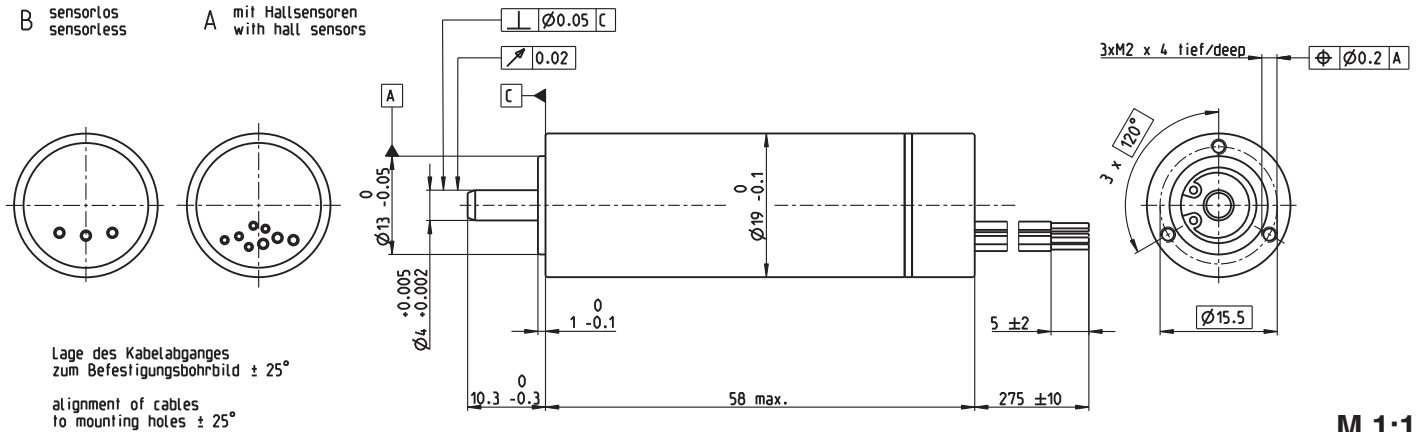


EC 19 Ø19 mm, brushless, 120 Watt

High Power

NEW

maxon EC motor



- Stock program
- Standard program
- Special program (on request)

Part Numbers

A with Hall sensors	475523	475524	467392
B sensorless	475527	475528	474494

Motor Data (provisional)

Values at nominal voltage		24	30	36
1 Nominal voltage	V	24	30	36
2 No load speed	rpm	62200	60500	54400
3 No load current	mA	272	208	147
4 Nominal speed	rpm	59200	57600	51600
5 Nominal torque (max. continuous torque)	mNm	23.5	24.1	24.5
6 Nominal current (max. continuous current)	A	6.61	5.25	3.99
7 Stall torque	mNm	589	610	559
8 Starting current	A	160	129	88.7
9 Max. efficiency	%	92	92.2	92.1
Characteristics				
10 Terminal resistance phase to phase	Ω	0.15	0.233	0.406
11 Terminal inductance phase to phase	mH	0.010	0.017	0.030
12 Torque constant	mNm/A	3.68	4.73	6.31
13 Speed constant	rpm/V	2600	2020	1510
14 Speed/torque gradient	rpm/mNm	106	99.3	97.5
15 Mechanical time constant	ms	2.01	1.88	1.85
16 Rotor inertia	gcm ²	1.81	1.81	1.81

Specifications

Thermal data	
17 Thermal resistance housing-ambient	10.7 K/W
18 Thermal resistance winding-housing	0.81 K/W
19 Thermal time constant winding	2.67 s
20 Thermal time constant motor	437 s
21 Ambient temperature	-20...+100°C
22 Max. permissible winding temperature	155°C
Mechanical data (preloaded ball bearings)	
23 Max. permissible speed	100000 rpm
24 Axial play at axial load < 3 N	0 mm
> 3 N	max. 0.14 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	3 N
27 Max. force for press fits (static) (static, shaft supported)	22 N
28 Max. radial load, 5 mm from flange	1410 N
12 N	
Other specifications	
29 Number of pole pairs	1
30 Number of phases	3
31 Weight of motor	82 g

Values listed in the table are nominal.

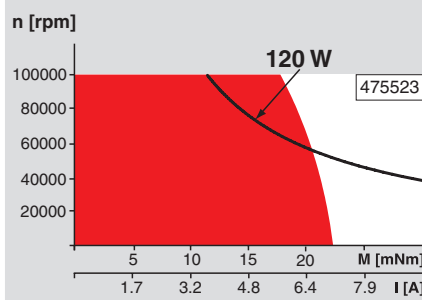
Connection A and B, motor (Cable AWG 22)

- red Motor winding 1
- black Motor winding 2
- white Motor winding 3

Connection A, sensors (Cable AWG 26)

- green VHall 3...24 VDC
 - blue GND
 - red/grey Hall sensor 1
 - black/grey Hall sensor 2
 - white/grey Hall sensor 3
- Wiring diagram for Hall sensors see p. 33

Operating Range



Comments

Continuous operation

In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient. = Thermal limit.

Short term operation

The motor may be briefly overloaded (recurring).

Assigned power rating

maxon Modular System

Overview on page 20–25

Recommended Electronics:

ESCON 36/3 EC	Page 342
ESCON Mod. 50/4 EC-S	343
ESCON Module 50/5	343
ESCON 50/5, 70/10	344
DEC Module 24/2, 50/5	346
Notes	24